

CLAIMS

What is claimed is:

1. A method of stacking semiconductor die comprising the acts of:

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forming a stack of at least two semiconductor die; and

10 placing the stack onto a temporary holding surface.

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2. The method, as set forth in claim 1, wherein the act of forming comprises the acts

of:

15 (a) picking up a first die having a topside and an underside with a die picking

tool;

20 (b) applying adhesive to the underside of the first die, thereby providing an

adhesively coated underside of the first die; and

c) without releasing the first die from the die picking tool, picking up a

second die having a topside and an underside by placing the adhesively coated underside

of the first die against the topside of the second die, thereby forming a die stack.

3. The method, as set forth in claim 2, wherein the first die is thicker than the second die.

5 4. The method, as set forth in claim 2, wherein the acts (a), (b), and (c) are performed in the recited order.

5. The method, as set forth in claim 2, wherein act (b) is performed before act (a).

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6. The method, as set forth in claim 2, comprising the act of applying adhesive to the underside of the second die, thereby providing an adhesively coated underside of the second die.

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7. The method, as set forth in claim 6, comprising the act of without releasing the first die from the picking tool, picking up a third die having a topside and an underside by placing the adhesively coated underside of the second die against the topside of the third die.

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8. The method, as set forth in claim 1, wherein the act of forming comprises the act of forming a stack of at least three semiconductor die.

5 9. The method, as set forth in claim 1, wherein the act of placing comprises the act of placing the stack onto a film frame.

10. The method, as set forth in claim 1, wherein the act of placing comprises the act 10 of placing the stack onto a gel pack.

11. The method, as set forth in claim 1, wherein the act of placing comprises the act of placing the stack onto a wafer.

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12. The method, as set forth in claim 1, wherein the act of placing comprises the act of placing the stack onto a tape reel.

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13. The method, as set forth in claim 1, comprising the act of attaching the die stack to a substrate.

14. The method, as set forth in claim 13, comprising the acts of:

applying a first adhesive between each of the at least two semiconductor die, the first adhesive being curable at a first temperature; and

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applying a second adhesive between the die stack and the substrate, the second adhesive being curable at a second temperature lower than the first temperature.

10 15. The method, as set forth in claim 1, wherein the act of forming comprises forming a shingle stack.

15 16. The method, as set forth in claim 1, comprising the act of removing the stack from the temporary holding surface and using the stack to form an integrated circuit package.

17. The method, as set forth in claim 16, comprising the act of electrically coupling the integrated circuit package to a processor to form an electronic system.

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18. The method, as set forth in claim 1, wherein at least one of the at least two semiconductor die comprises a memory die.